



The Role of GeoAl in the National Geospatial Strategy

Amar Nayegandhi, Senior Vice President

GeoGov Summit Sept 8, 2023

What does ChatGPT say...

GeoAl in National Geospatial Strategy

September 4, 2023

What is the role of geoai in the national geospatial strategy

As of my last knowledge update in September 2021, I can provide some general information about the role of GeoAl in national geospatial strategies. Please note that specific strategies and implementations may have evolved since then.

GeoAl, or Geographic Artificial Intelligence, plays a crucial role in national geospatial strategies by leveraging artificial intelligence and machine learning techniques to analyze and extract valuable insights from geospatial data. Here are some potential roles of GeoAl in such strategies:

- Data Analysis and Interpretation: GeoAl can process vast amounts of geospatial data, including satellite imagery, GPS data, and geographic information system (GIS) data, to identify patterns, trends, and anomalies. This helps government agencies make informed decisions for various applications, such as disaster management, urban planning, and environmental monitoring.
- Predictive Modeling: GeoAl can be used to develop predictive models for various geospatial phenomena, such as predicting
 natural disasters, disease outbreaks, or traffic patterns. This enables proactive planning and resource allocation.
- Infrastructure Management: National geospatial strategies often involve managing critical infrastructure. GeoAl can assist in
 monitoring the condition of infrastructure like bridges, roads, and pipelines using remote sensing technologies and alert
 authorities to maintenance needs.

- Honest
- Knowledgeable
- Dependable
- Effective Summarizer
- Environmental Monitoring: GeoAl helps in monitoring environmental changes, including deforestation, land use changes, and climate patterns. This data is essential for policymakers to make informed decisions related to conservation and sustainability.
- National Security: GeoAl aids in national security by analyzing geospatial data for intelligence purposes, border security, and identifying potential threats.
- Emergency Response: During disasters, GeoAl can provide real-time information on affected areas, helping first responders and relief agencies allocate resources effectively and coordinate rescue efforts.
- Urban Planning: GeoAl can assist in optimizing urban planning and development by analyzing population density, transportation patterns, and land use to create more efficient and sustainable cities.
- Agriculture and Food Security: GeoAl can support agriculture by providing data-driven insights on crop health, soil quality, and weather patterns, which are vital for food production and security.
- Infrastructure Planning: GeoAl can help identify suitable locations for new infrastructure projects, such as power plants, airports, and hospitals, based on geospatial data analysis.

The specific role of GeoAl in a national geospatial strategy will depend on the goals, priorities, and challenges faced by each country. Since my knowledge is not up-to-date, I recommend checking the latest documents and reports related to your country's national geospatial strategy to get a more accurate and current understanding of how GeoAl is being utilized.

Continue this conversation

Report content | Terms of use | Privacy policy

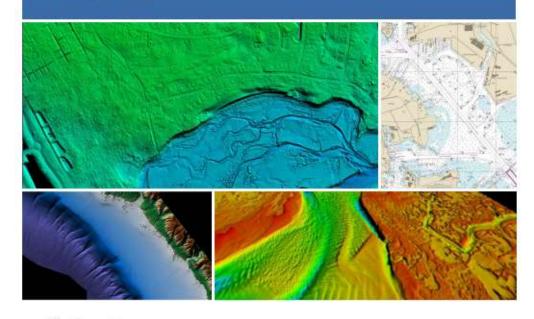
https://chat.openai.com/share/cf029f84-5d72-4193-bc70-9c0cd1929aa0

Dewberry is a producer and consumer of geospatial data

- A&E Firm with a strong Geospatial Program
- Geospatial group includes Remote Sensing, Survey, GIS, Solutions and Analytics
- Studies and Specifications for Federal and State Agencies
- Active contracts with FEMA, USGS, NOAA, USACE...

3D NATION ELEVATION REQUIREMENTS AND **BENEFITS STUDY**

SEPTEMBER 15, 2022





SUBMITTED BY

SUBMITTED TO

1315 East West Highway Silver Spring, MD 20910

We have supported FEMA respond to **MORE THAN**

NATURAL AND MANMADE disasters

1979

HURRICANE FREDERIC

FEMA is established

Dewberry's first disaster response effort with FEMA during Hurricane Frederic 1992

HURRICANE ANDREW

Dewberry provides major response efforts following Hurricane Andrew

1995

HURRICANE MARILYN

Dewberry deploys 40+ staff to U.S. Virgin Islands within 48 hours of Hurricane Marilyn 2001

9/11 ATTACKS

Dewberry supports FEMA following the 9/11 attacks on the World Trade Center to assist with recovery and debris management 2005

HURRICANES KATRINA AND RITA

Dewberry deploys 2,500 staff to support FEMA in Hurricanes Katrina and Rita recovery 2012

SUPERSTORM SANDY

Dewberry supports FEMA following Superstorm Sandy, manages housing inspections and public work damage assessments, also coordinates marine debris removal, allowing New Jersey beaches to open by July 4th 2018

HURRICANE MICHAEL CAMP FIRE DISASTER TYPHOON YUTU

Dewberry supports FEMA following Hurricane Michael with pre-event modeling and post-event damage assessments

> Camp Fire disaster, Dewberry assists with temporary housing

Dewberry provides reconstruction coordination following Typhoon Yutu 2022

HURRICANE IAN

Dewberry supports FEMA with post-event machine learning damage assessment and flood inundation validation.

Dewberry supports housing mission planning efforts and monitors temporary housing construction.

Geospatial Damage Assessments

HURRICANE HUGO LOMA PRIETA **EARTHQUAKE**

50 staff respond to Hurricane Hugo in North Carolina and South Carolina

Dewberry provides major response efforts following the Loma Prieta earthquake

NORTHRIDGE EARTHQUAKE

Northridge Earthquake. Dewberry supports recovery efforts for nearly 10 years

HURRICANE FLOYD

Hurricane Floyd, Dewberry responds within 48 hours

COLUMBIA SPACE SHUTTLE INCIDENT

FEMA merges with DHS and 21 other organizations

Dewberry responds to Columbia Space Shuttle incident with 11 experts in emergency work cost identification CALIFORNIA WILDFIRES

Dewberry creates post-hazard awareness maps and interactive multi-agency website to identify and reduce further risks

HURRICANES HARVEY. IRMA, MARIA

Dewberry supports recovery efforts of Hurricanes Harvey, Irma, and Maria with pre-event risk analysis and post-event damage assessments

COLONIAL PIPELINE. HURRICANE IDA

Dewberry assists with fuel supply chain vulnerability assessment

Dewberry supports FEMA following Hurricane Ida with data analytics to assess grocery supply chain

Dewberry wins new contract and continues to provide FEMA with flood/risk mapping expertise (continuously since 1974)

1974

Dewberry receives

first contracts with

formation of FEMA.

HUD, prior to the

to provide flood

mapping services

1989

1994

1999

2003

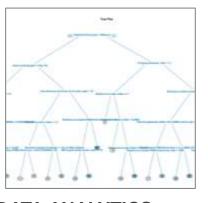
2007

2017

2021



FIELD DAMAGE ASSESSMENTS



DATA ANALYTICS



INCORPORATE MACHINE LEARNING





MODELED



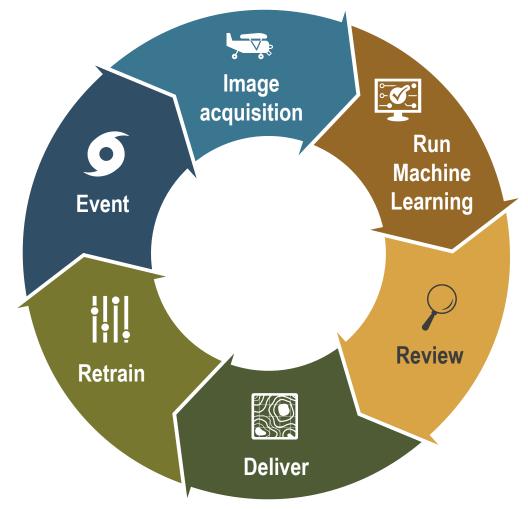
3D ANALYTICS



Always Room For Improvement

GEOSPATIAL PROBLEM SOLVING

- This process involves continuous refinement
- While the solution accomplishes the goal
 - it can be further developed to become more agnostic towards external variables such as the sensor, geography, season...



GeoAl – One more tool in the toolbox?

